

REMARKS

Claim 1 has been amended to more clearly claim the invention. Claims 1-3, 8-9, and 11-20 are currently pending in the application.

The Examiner rejected claims 1-3, 8, 9, and 11-20 under 35 USC § 102(b) as being anticipated by Wagner (USPN 5,221,983). The Examiner also rejected claims 1-3, 8, 9, and 11-20 under 35 USC § 103(a) as being unpatentable over Nagahori et al. (USPN 5,896,213; hereinafter "Nagahori") in view of Geile et al. (USPN 6,336,201; hereinafter "Geile"). The rejections are respectfully traversed and Applicant requests reconsideration of the application.

102(b) Rejection

In order for a reference to anticipate an invention, each and every element of the claimed invention must be found in a single reference. "Moreover, it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." Ex parte Levy, 17 USPQ2d 1461, 1462 (Bd Pat App & Inter 1990). "The identical invention must be shown in as complete detail as is contained in the ... claim." MPEP § 2131. Applicant respectfully submits that Wagner does not anticipate Applicant's claimed invention because Wagner does not teach or disclose each and every element of the claimed invention.

The Examiner argues lines 13-29 in column 5 of Wagner teach all of the elements in independent claims 1 and 18. Lines 13-29 state:

Turning to FIG. 1, an overview of a double-star, fiber optic subscriber loop architecture 10 is schematically illustrated. The subscriber loop architecture 10 comprises a Central Office 1. The Central Office 1 is connected by fiber optic feeder cables 2 to a plurality of Remote Nodes

(RN) 3. A plurality of individual subscribers 5 are connected via fiber optic cables 4 to each Remote Node 3.

In accordance with the present invention, downstream information is modulated onto particular downstream wavelength channels and transmitted to the Remote Nodes 3 via fiber cables 2. At the Remote Nodes, this downstream information is distributed to the individual subscribers 5 via the fiber cables 4. Upstream information from the individual subscribers 5 is multiplexed at the Remote Nodes 3 for transmission to the Central Office via the fiber cables 2.

The Examiner argues the plurality of fiber optic cables provide diversity in the route of the optical signals to the end user. As can be seen, lines 13-29 teach a double-star architecture where a single fiber cable connects each subscriber to a remote node. Applicant respectfully submits this cited section does not teach route diversity as claimed by Applicant.

Independent claim 1, as amended, recites:

- c) a first optical fiber cable that includes a plurality of N individual fibers optically coupled to a first output of the 1x2 element; wherein the number N of individual fibers corresponds to the number of end users; and
- d) a second optical fiber cable that includes a plurality of N individual fibers optically coupled to a second output of the 1x2 element, wherein the number N of individual fibers corresponds to the number of end users, and the first and second optical fiber cables provide route diversity in the broadcast network.

And independent claim 18 recites:

"a broadcast network using a first multi-optical-fiber cable that includes a plurality of N individual optical fibers and a second multi-optical-fiber cable that includes a plurality of N individual optical fibers where N represents the number of users"; and

"transmitting the broadcast signal through at least one of the first and second multi-optical-fiber cables."

Applicant respectfully submits Wagner does not teach route diversity as claimed in independent claims 1 and 18. As discussed earlier, lines 13-29 in Wagner teach a double-star architecture where a single fiber cable connects each subscriber to a remote node. Wagner does not teach, for example, "a first optical fiber cable that includes a plurality of N individual fibers optically coupled to a first output of the 1x2 element" and "a second optical fiber cable that includes a plurality of N individual fibers optically coupled to a second output of the 1x2 element, wherein the number N of individual fibers corresponds to the number of end users, and the first and second optical fiber cables provide route diversity in the broadcast network." Consequently, for at least this reason, Wagner does not anticipate independent claims 1 and 18.

"Claims in dependent form shall be construed to incorporate by reference all the limitations of the claim incorporated by reference into the dependent claim." 37 CFR 1.75. Therefore, claims 2, 3, 8, 9, and 11-17 include all the limitations of claim 1, while claims 19 and 20 include all of the limitations of claim 18. For at least the reasons discussed above, Wagner does not anticipate independent claims 1 and 18. Therefore, claims 2, 3, 8, 9, 11-17, 19, and 20 are also not anticipated by Wagner.

103(a) Rejection

The Manual of Patent Examining Procedure (MPEP) states the following in Section 2142:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Applicant submits the combination of Nagahori with Geile does not render Applicant's claimed invention obvious, since the combination does not meet any of the three basic criteria listed above. The discussion below, however, will be limited to the third criteria.

The Examiner argues cable 52 in Nagahori provides route diversity on the opposite side of the 1xN element. Applicant respectfully submits cable 52 does not teach or suggest route diversity as claimed in Applicant's independent claims 1 and 18. Cable 52 is the only cable that connects to optical networking unit (ONU) 12. None of the ONUs in Nagahori has route diversity, since only a single fiber cable connects to each ONU. Therefore, for at least the following reason, the combination of Nagahori and Geile does not render claims 1 and 18 obvious.

If an independent claim is not rendered obvious by prior art, then any claim depending from the independent claim is not obvious. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988) (see also M.P.E.P. § 2143.03). Therefore, claims 2, 3, 8, 9, 11-17, 19, and 20 are not rendered obvious by the combination of Nagahori and Geile.

In light of the amendments and discussion above, Applicant believes that all claims currently remaining in the application are allowable over the prior art, and respectfully requests allowance of such claims.

Respectfully submitted,

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